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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,177	08/30/2001	Loretta Ann Grezzo Page	10012801-1	1006

7590 04/10/2003

HEWLETT-PACKARD COMPANY
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EXAMINER

GRENDZYNSKI, MICHAEL E

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/10/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,177

Applicant(s)

PAGE ET AL.

Examiner

Michael E. Grendzynski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 and 9-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election **without** traverse of Group I, species "b" (claims 4-8) in Paper No. 5 is acknowledged. Claims 1-3 and 9-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species (claims 1-3 and 9-12) and invention (claims 13-21), there being no allowable generic or linking claim.

Information Disclosure Statement

2. The information Disclosure Statement submitted on 8/30/01 (Paper No. 3) has been considered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of the phrase "at least about 65%" renders the claims ambiguous. This phrase does not have a well-known meaning in the art; moreover, the specification does not provide any indication as to what range of specific activity is covered by the term "about". See MPEP § 2173.05(a). Consequently, the critical lower threshold limit cannot be determined, and the metes and the bounds of the claims cannot be ascertained. It is suggested that applicants delete the term "about" from the phrase.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4-6 & 8

6. Claims 4, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bermel (US 6419355). Applicants claim a print media product comprising (1) a substrate and (2) at least one ink-receiving layer comprising (a) a pigment selected from the group consisting of boehmite, pseudoboehmite and a mixture thereof, present in an amount of at least about 65% by weight, and (b) an ink fixative comprising a cationic emulsion polymer which is compatible with the pigment and substantially avoids inducement of gellation/increases in viscosity of the pigment. [Bermel discloses an ink jet printing method whereby an ink jet printing element is printed with an ink jet ink composition. See Abstract. The element comprises, in order, (1) a substrate, (2) a base layer and (3) an image-receiving layer including (a) particles having a primary particle size of from 7-40 nm and (b) water insoluble, cationic particles. See Abstract. The image-receiving layer is equivalent to applicants' ink-receiving layer. First, Bermel's cationic, water insoluble particles are equivalent to applicants' cationic emulsion polymer. They comprise particles created using emulsion polymerization, and comprise at least one cationic monomer (applicants define cationic emulsion polymer as a polymer containing a cationic monomer that is formed using an emulsion polymerization process—see the specification on p 59, l 26 through p 60, l 2 and p 60, l 27 through p 61, l 15). See Bermel at col. 3, l 66 through col. 4, l 58 (disclosing the particles are formed by emulsion polymerization (col. 4, ll 24-25) and comprise a cationic monomer (col. 4, ll 3-5)). Second, the particles having a primary particle size of from 7-40 nm are equivalent to applicants' pigment selected from the group consisting of boehmite, pseudoboehmite and a mixture thereof. The particles comprise boehmite. See col. 3, ll 7-8. Third, these boehmite particles are present within an amount claimed by

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applicants. Bermel discloses that its binder-to-particle weight ratio is from about 1:20 to about 1:10 (*see* col. 5, ll 15-18) and that the weight ratio of its water insoluble, cationic particles to the particles having a primary particle size of from 7-40 nm is from about 1:2 to 1:10 (*see* col. 4, 31-34). Assuming, for example, the entire composition of the image-receptive layer is 100 parts by weight, then Bermel (disclosing a binder/particle ration of 1:20) discloses its binder is present in an amount of approximately five (5) parts by weight, with the total particles being present in an amount of approximately 95 parts by weight. Choosing a 5:1 ratio for particles having a primary particle size of 7-40 nm to the cationic particles (the preferred ratio disclosed by Bermel), then the weight of the cationic particles in the entire layer is approximately 15 parts by weight, with the remaining 80 parts by weight being the boehmite particles. This correlates to a weight percent of 80%. This value, then, falls within applicants' claimed value of boehmite at least about 65% by weight. As such, the range disclosed by Bermel overlaps the range disclosed by applicants. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). *See* MPEP § 2144.05. Applicants can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range. *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990); *see also* MPEP § 2144.05. To date, this burden has not been sustained. With regard to the claimed compatibility and gellation properties, since the cationic particles of Bermel comprise the exact compositional formulation as that claimed by applicants (i.e., an emulsion polymerized polymer having a cationic group), it would be expected to possess these properties. *See* MPEP § 2112.01

With regard to claim 5, Bermel discloses that its cationic particles are present in a range that overlaps the claimed range, as discussed above. *See* col. 5, ll 15-18 (disclosing that its binder-to-particle weight ratio is from about 1:20 to about 1:10) and col. 4, ll 31-34 (disclosing that the weight ratio of its water insoluble, cationic particles to the particles having a primary particle size of from 7-40 nm is from

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about 1:2 to 1:10). [Again, where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 2144.05.]

With regard to claim 6, Bermel discloses that its cationic particles comprise a polymer including a quaternary ammonium monomer (vinylbenzyl, trimethylammonium chloride). See col. 4, ll 35-55.

With regard to claim 8, applicants claim the medium further comprises a material layer. The Bermel base layer is equivalent to applicants' additional material layer.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bermel, as applied to ^{4-6 and 8} claims 4, 6, and 8, above, in view of Nehmsmann (US 5804293), Oliver (US 5270103), Darsillo (US 6365264) and Golub (US 2002/0187311). Applicants claim that the ink-receptive layer further comprises a mixture of three binders, namely, a polyvinyl alcohol, a polyethylene-polyvinyl acetate copolymer and a polyvinyl pyrrolidone-polyvinyl acetate copolymer. Bermel, while disclosing the use of the binders such as polyvinyl alcohol and polyvinyl pyrrolidone, does not disclose the use of these binders in a mixture with other binders such as polyvinyl pyrrolidone-polyvinyl acetate copolymers or polyvinyl pyrrolidone-polyvinyl acetate copolymers. See col. 4, ll 59-65. Both Nehmsmann and Oliver both teach that polyvinyl pyrrolidone-polyvinyl acetate copolymers are art-recognized equivalent binders used interchangeably (and in combination with) other binders such as polyvinyl alcohol and polyvinyl pyrrolidone. See Nehmsmann at col. 7, ll 25-36 and Oliver in the Abstract. Similarly, Darsillo discloses that ethylene-vinyl acetate copolymers are equivalent binders in the ink jet art for other polymers such as polyvinyl alcohol and polyvinyl pyrrolidone. See col. 9, l 42 through col. 10, l 7. Golub reinforces these teachings by showing the interchangeable use of each of applicants' claimed binders in an ink-jet receptive coating. See ¶ 41. The combinations of these binders would be obvious to one of ordinary skill in the art at the time of the invention. “It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to

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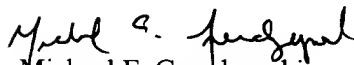
be used for the very same purpose [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted). *See also* MPEP § 2144.06. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to use polyvinyl pyrrolidone-polyvinyl acetate copolymers and polyvinyl ethylene-polyvinyl acetate copolymers as binders in the ink-receptive layer of Bermel, since they are art recognized equivalent binders in the art, and their combination flows logically from their having been taught in the prior art (Nehmsmann, Oliver, Darsillo and Golub).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael E. Grendzynski whose telephone number is 703-305-0593. The examiner can normally be reached on weekdays, from 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 703-308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2351.


Michael E. Grendzynski
Assistant Examiner
April 6, 2003